Thermo Scientific Revco® Super Insulation Freezers

Maximum sample capacity with a minimal footprint

Thermo Scientific Revco Super Insulation –86°C Ultra-Low Temperature Freezers

Available in a variety of sizes and control configurations, our Super Insulation (SI) -86°C ultra-low temperature upright freezers set the standard for capacity and floor space efficiency in critical materials storage.

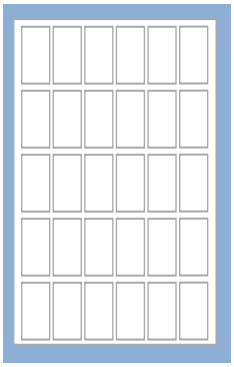
Our freezers utilize exclusive thin-wall Super Insulation technology, enabling laboratories to store more samples, without taking up additional lab floor space.

Thin-wall Super Insulation increases an SI freezer's interior volume when compared with conventional ultra-low freezers of an equivalent size. This gives laboratories significantly more capacity for safe, effective sample storage in compact, space-saving cabinet designs.

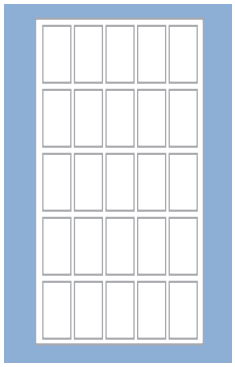
Store More Samples, Use Valuable Lab Space More Efficiently

Our SI freezers employ a composite thin-wall design to increase interior capacity. Highly efficient thin-wall Super Insulation decreases the wall thickness from 5" (127 mm) on conventional ultra-lows to just 2⅝" (67 mm), maximizing the space available for sample storage.

The result: significantly more storage capacity than conventional models with an equivalent freezer footprint.



24.4 cu. ft. SI freezers with thin-wall Super Insulation can accommodate six inventory racks per shelf, providing a total freezer volume of 30 racks.



An equivalent size 24.4 cu. ft. freezer with conventional insulation stores five racks per shelf, giving a total freezer volume of only 25 inventory racks.

Advanced Cabinet Technology

Our freezer cabinets are specifically designed for low-temperature use: They are not converted from common commercial products.

- Each low-profile cabinet is formed by the insertion of an inner chamber into an outer shell, surrounded by high-density, CFC-free, foamed-in-place urethane insulation, in combination with five open insulation panels, for the highest R-value
- Composite wall design minimizes wall thickness to maximize interior space
- Inner doors made from durable ABS plastic create independent storage compartments with uniform chamber insulation
- Stainless steel breakers and hot gas halo heat around perimeter of cabinet minimize frost build-up
- Heavy-duty swivel casters and two front adjustable leveling feet make installation easy

Typical SI Freezer Storage Applications
Bacteria
Blood component additives
Bone marrow
Clinical samples
Fungi (yeasts/spores/molds)
Insect cell culture
Mammalian cell culture
Materials testing storage
Nucleic acids (DNA/RNA)
Plant cell culture
Red cell storage
Sperm, fertilized ova
Tissues
Viruses

Our Super Insulation freezers are designed for long-term storage of biologicals, blood components and pharmaceuticals throughout a wide range of life science, hospital/clinical and industrial applications. Super Insulation freezers include the latest refrigeration and microprocessor-based control technology developed to increase reliability, stability and dependability. For critical storage applications, optional back-up systems and temperature recorders are strongly recommended.

High-Capacity Thermo Scientific Revco Ultima® II Series SI –86°C Freezer 32 cu. ft. (906 L)

The high-capacity 32 cu. ft. SI freezer requires less floor space than comparable models, and accommodates an unprecedented 70,000 sample vials* in 35 inventory racks. (Model shown: Revco Ultima II ULT-3286-9SI)

- 44.5" wide x 35" deep (1130 mm x 889 mm) cabinet footprint saves laboratory floor space
- Ultima II Series IntrLogic™ control, alarm and monitoring (see page 5)
- Advanced cascade refrigeration system assures reliability for critical storage applications
- Pressure Equalization Port™ for easy door opening
- Cryolatch™ ultra-reliable, heavy-duty latch assembly with key access and padlock provision
- 1" (25 mm) access port
- Options and accessories include temperature recorders, back-up systems, inventory racks and boxes

(based on 2" (50 mm) boxes with 100 vials each)*

Thermo Scientific Revco Ultima II and Value™ Series SI –86°C Freezers 24.4 cu. ft. (691 L)

24.4 cu. ft. SI freezers hold 20% more inventory than conventional 20.2 cu. ft. ultra-low freezers. Up to 48,000 sample vials† can be stored in 30 inventory racks. (Model shown: Revco Ultima II ULT-2586-9SI with optional temperature recorder)

- 39.5" wide x 35" deep (1003 mm x 889 mm) footprint occupies the same lab floor space as a 21 cu. ft. conventionally insulated freezer
- Revco Ultima II and Value Series control, alarm and monitoring options (see page 5)
- Dependable Legaci® refrigeration technology
- Pressure Equalization Port™ for easy door opening
- Cryolatch™ ultra-reliable, heavy-duty latch assembly with key access and padlock provision
- 1" (25 mm) access port
- Options and accessories include temperature recorders, back-up systems, inventory racks and boxes

(† based on standard fiberboard 2" (50 mm) and 3" (76 mm) boxes with 10 x 10 cell grid dividers)

Thermo Scientific Revco Slimline Value Series SI –86°C Freezer 11 cu. ft. (311 L)

Ideal for laboratories with limited floor space, this slimline freezer accommodates up to 18,000 sample vials† in 15 inventory racks. (Model shown: Revco Value ULT-1186-3SI)

- Space-saving 26.5" wide x 37" deep (673 mm x 940 mm) footprint requires minimal lab floor space
- Revco Value Series solid-state electronic control and door-mounted digital display (see page 5)
- Dependable Legaci refrigeration technology
- Pressure Equalization Port for easy door opening
- Convenient chrome cam latch with padlock provision
- 1" (25 mm) access port
- Options and accessories include temperature recorders, back-up systems, inventory racks and boxes

(† based on standard Revco fiberboard 2" (50 mm) and 3" (76 mm) boxes with 10 x 10 cell grid dividers)

Thermo Scientific Revco Super Insulation Freezers

CFC-Free Refrigerants, Insulation and Packaging

All Thermo Scientific products use CFC-free refrigerants, cabinet insulation and packaging.

Validation Testing Program

Our validation testing services (in advance of shipment) can accelerate in-house FDA Installation Qualification (IQ) and Operation Qualification (OQ) programs upon delivery. Validation services include documentation and performance reports, compressor and subsystem component specifications, microprocessor flow diagrams, software specifications and more. Validation services must be requested when ordering: For details, contact your Thermo Scientific Sales Representative.

Certification of Calibration

Control, alarm and temperature recording systems are systematically calibrated at the factory for accurate performance. An optional Certificate of Calibration to an NIST traceable instrument (National Institute of Standards and Technology, formerly National Bureau of Standards) includes a Model Number and Serial Number Certificate (single point calibration). Multiple point calibration is available. Calibration certificates must be requested when ordering; for details contact your Thermo Scientific Sales Representative.

Ordering Information

Our technical sales representatives will assist in choosing the proper SI freezer for your application.

- Each model number is voltage specific. For clarity, please include the voltage of your selected SI freezer when ordering
- When ordering your freezer, please consider current or future accessory requirements such as temperature recorders, extra shelves, inventory racks/boxes and alarm/monitoring systems
- Many accessories are factory installed and must be specified when ordering

Electrical Information

Our freezers are designed to meet UL, CUL, CE and TUV criteria for safety and performance. All connections must comply with local electrical codes.

- Selection charts for each model list voltage, rated amperage, recommended circuit breaker size and NEMA electrical plug information (National Electrical Manufacturers' Association, USA)
- Super Insulation freezers are supplied with line cord plugs (P) which require corresponding receptacles illustrated on the line cord plug reference chart
- Site preparation requires availability of the proper receptacle; a dedicated circuit is recommended
- For questions regarding site preparation, installation and electrical connection, contact your Thermo Scientific Sales Representative.

Performance Data

For detailed performance information such as temperature recovery, power consumption and other model specific operational characteristics, contact your Thermo Scientific Sales Representative.

Line Cord Plug Reference

Models with this code	*have this plug*	*require this receptacle*	*NEMA Reference*	
			Plug	*Receptacle*
P2			*5-20P*	*5-20R*
P4			*6-15P*	*6-15R*
			International	
P7			*European*	
P8			*British*	

Super Insulation freezers supplied with line cord plugs (P) require corresponding receptacles illustrated in the Line Cord Plug Reference. Catalog selection charts list each standard model with voltage, rated amperage, recommended circuit breaker size and NEMA electrical plug information.

NALGENE® and NUNC™ cryogenic storage give you everything you need to safely store precious specimens, organize freezer space and simplify sample retrieval.

NALGENE and NUNC combine to provide one-stop shopping for the widest variety and highest quality of externally and internally threaded cryovials, storage boxes, lab top coolers and "Mr. Frosty" controlled rate freezing containers.

For further information regarding these products - visit www.nalgene.com or www.nuncbrand.com

Two Levels of Control Sophistication

Revco Ultima II Series

Advanced IntrLogic™ control, available on 32 cu. ft. and 24.4 cu. ft. Revco Ultima II Series SI freezers, controls, measures, compares and reports cabinet operation with digital accuracy. Designed to simplify operation and improve reliability, the IntrLogic controller features a digital display, keyed power and alarm switch and touchpad data entry for adjustable temperature and alarm settings. The controller is door-mounted for quick viewing and temperature adjustment. Comprehensive monitoring technology includes Lifeguard compressor protection, A.I.M. (Automatic Incident Monitor) and extreme ambient alert.

3-Position Key Switch for operating temperature, alarm parameter activation and setpoint security

Lifeguard Alert monitors compressor performance and automatically adjusts to internal and external conditions, extending component life

Audible/ Visual Alarms notify user of deviation beyond adjustable high and low parameters

Extreme Ambient Alarm warns if room temperature may affect freezer performance

Automatic Incident Monitor warns of current or recent self-corrected situations that may affect performance

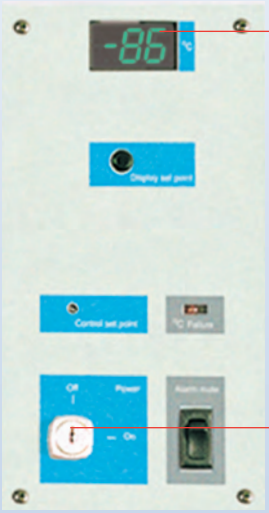
Voltage Boost notifies of insufficient incoming line voltage and automatically compensates to required voltage

Low Battery Alarm Indicator, clean filter light and alarm test displayed on control panel

Exterior Alarm Contacts for remote monitoring

Revco Value Series

Solid-state control, available on 24.4 cu. ft and 11 cu. ft. Revco Value Series SI freezers, provides basic but dependable operation. A large, easy to read digital temperature display indicates setpoint and actual temperature at the push of a button.



Adjustable Temperature Control

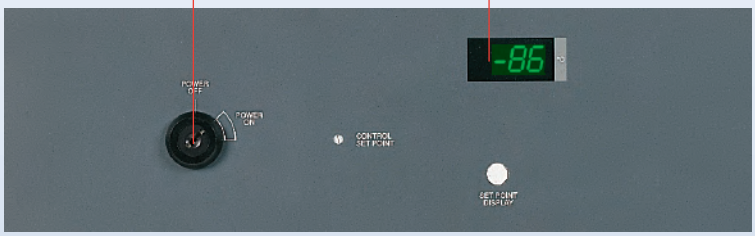
Key-Operated On/Off Switch engages preset overtemperature alarm

11 cu. ft. Revco Value SI controller

Key-Operated Main Power Switch, battery back-up and controller

Exterior Alarm Contact connects to remote monitoring system

Adjustable Temperature Control



24.4 cu. ft. Revco Value SI controller

Integrated Preset Over-Temperature Alarm provides audible warning of temperature deviation

Automatic Voltage Boost System compensates for low source power

Thermo Scientific Revco Ultima II Series SI –86°C Freezer 32 cu. ft. (906 L)

Revco ULT-3286-9SI high-capacity ultra-low temperature freezer.

- *Holds 700 2" (50 mm) boxes (70,000 vials) 525 3" (76 mm) boxes (52,500 vials)*
- *Based on standard Thermo Scientific Revco fiberboard boxes with 10 x 10 grid cell dividers.*

The Revco ULT-3286-9SI requires less floor space than comparable models.

Super Insulation Increases Capacity

Exclusive thin-wall Super Insulation increases your storage capacity without occupying additional lab space. The 32 cu. ft. (906 L) Revco Ultima II Series Super Insulated -86°C freezer requires less floor space than comparable models.

Maximum Storage Capacity

- Seven optional racks per shelf and five shelf positions provide a total freezer volume of 35 inventory racks that hold up to 700 2" (50 mm) boxes or 525 3" (76 mm) boxes
- Closed-cell, high-density, foamed-in-place urethane insulation on the side and back walls combine with a vacuum insulation core to maintain R-value
- Composite wall design decreases wall thickness from 5" (127 mm) to 2⅝" (67 mm), maximizing interior space
- At only 35" deep x 44.5" wide (889 mm x 1130 mm), the high-capacity ULT-3286-9SI saves valuable lab floor space

Cabinet Features

Interior

- Ten inner doors constructed of high impact plastic create independent storage compartments
- Each inner door is mounted on a continuous hinge for optimal sample protection and increased service life
- Inner doors operate independently to protect entire sample contents from ambient thermal exposure
- Five shelves, three adjustable in 1" (25 mm) increments, permit alternate inventory configuration
- Stainless steel breakers and hot gas halo heat around perimeter of cabinet minimize frost build up
- Pressure Equalization Port™ (PEP) rapidly equalizes cabinet pressure by metering controlled amount of atmospheric air into storage chamber after door opening
- PEP combats vacuum created by pressure differential upon door closing, allowing re-entry to cabinet within 30 seconds of door opening

Exterior

- CryoLatch™ ultra-reliable, heavy-duty latch assembly with key access and padlock provision
- Heavy duty swivel casters and two front adjustable leveling feet for ease of installation
- 1" (25 mm) access port located on upper back wall of freezer

Heavy Duty Refrigeration System

- Advanced refrigeration system assures unprecedented reliability for critical storage applications
- Two 1HP semi-hermetic compressors configured for ultra-low freezers, and scientifically matched for motor size and displacement required for efficient operation
- DuPont™ refrigerants are formulated to achieve design operating temperatures by cooling the load as well as the system components
- Lubricating oils are formulated to function properly at ultra-low temperatures
- Condensers and aerodynamically shaped fans are balanced to complement the cooling capacity of the refrigerants

Specifications Temperature Range: -50°C to -86°C

Model No.	Cu.Ft. (L)	Controller	Voltage (Hz)	Amps/ Breaker (Plug)	Interior Dimensions* H x D x W inches (mm)	Exterior Dimensions* H x D x Winches (mm)	Ship Weight lb (kg)
ULT-3286-9SI-D	32 (906)	IntrLogic	208 V 60 Hz 1 Ø	12/15 (P4)	50.5 x 26.8 x 39.3 (1283 x 680 x 991)	77.5 x 35.0 x 44.5 (1969 x 889 x 1130)	1055 (480)
ULT-3286-9SI-V	32 (906)	IntrLogic	230 V 50 Hz 1 Ø	12/15 (P7)	50.5 x 26.8 x 39.3 (1283 x 680 x 991)	77.5 x 35.0 x 44.5 (1969 x 889 x 1130)	1055 (480)
ULT-3286-9SI-W	32 (906)	IntrLogic	230 V 50 Hz 1 Ø	12/15 (P8)	50.5 x 26.8 x 39.3 (1283 x 680 x 991)	77.5 x 35.0 x 44.5 (1969 x 889 x 1130)	1055 (480)

**All dimensions and specifications subject to change without notice. External dimensions include allowances for cabinet door, hinges, latches, handles and control panel protrusions.*

Inventory Systems and Accessories

Inventory Rack Stainless steel with handle. Adjustable, 2" (50 mm) or 3" (76 mm) box configuration; boxes and dividers ordered separately.	Holds 20 boxes 2" (50 mm)		Holds 15 boxes 3" (76 mm)	
	9.4" H x 26.8" D x 5.3" W (239 mm x 681 mm x 135 mm)			
Full-Load Inventory System includes 35 racks with boxes and 100 cell dividers	Catalog No. 7189 35 racks, clips, 700 2" (50 mm) boxes Total vial capacity: 70,000		Catalog No. 7190 35 racks, clips, 525 3" (76 mm) boxes Total vial capacity: 52,500	
Single Rack, Standard With clips (adjustable)	Catalog No. 7187			
Single Rack 4 drawers for (20) 2" boxes	Catalog No. 7243			
Fiberboard Boxes Package of (12) boxes (without dividers)	Catalog No. 5954		Catalog No. 5956	
Fiberboard Dividers Package of (12) dividers	Catalog No. 5958 10 x 10 100 cells	Catalog No. 6212 9 x 9 81 cells	Catalog No. 5960 8 x 8 64 cells	Catalog No. 5959 7 x 7 49 cells

The inventory system (ordered separately) is based on the stainless steel rack for use with optional 2" (50 mm) or 3" (76 mm) high boxes. Racks, boxes and dividers can be ordered separately or as a complete system.

Contact your Thermo Scientific Sales Representative for information on alternative available inventory racks.

Options and Accessories

	Catalog No.
CO_2 Back-up System (built-in, factory installed)	7216
CO_2 Back-up System (free standing, customer installed)	7214
LN_2 Back-up System (built-in, factory installed)	7217
LN_2 Back-up System (free standing, customer installed)	7215
6" (152 mm) Circular Chart Temperature Recorder (built-in, factory installed, 50 charts included)	6183
6" (152 mm) Circular Chart Temperature Recorder (free standing, customer installed, 50 charts included)	6383
6" (152 mm) /7-day Chart Paper (temperature range +50°C to -115°C, package of 50)	6185
Alarm Delay Module	6903
Deluxe Electronic Remote Alarm	6224
Digital Temperature Monitor	6898

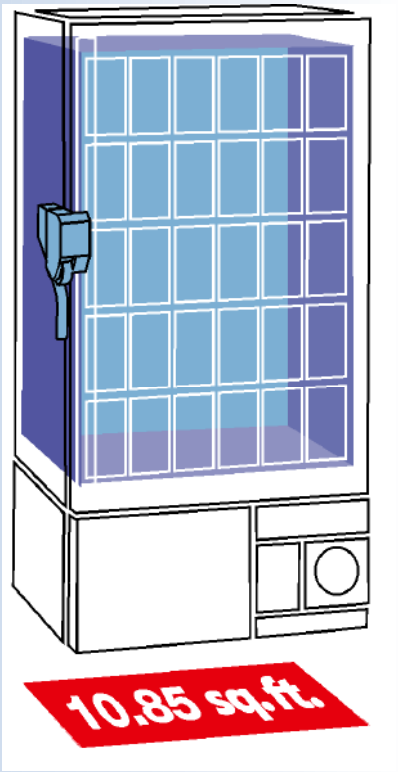
Line Cord Plug Reference

Models with this code	*have this plug*	*require this receptacle*	*NEMA Reference*	
			Plug	*Receptacle*
P4			*6-15P*	*6-15R*
			International	
P7			*European*	
P8			*British*	

Control, Alarms and Monitoring Systems

- IntrLogic control system is user-friendly yet high-performance with digital display, keyed power and alarm switch, and touchpad data entry, door-mounted for quick viewing and temperature adjustment
- Audible and visual alarms notify user of deviation beyond adjustable high and low parameters
- Automatic incident monitor (A.I.M.) warns of current or recent self-corrected situations that may affect performance
- Low battery alarm indicator, clean filter light and alarm test are displayed on control panel
- Extreme ambient alarm warns if room temperature may affect freezer performance
- Three-position key switch for operating temperature and alarm parameter activation
- Lifeguard alert monitors compressor performance and automatically adjusts to internal and external conditions, extending component life
- Voltage boost notifies of insufficient incoming line voltage; automatically compensates to required voltage
- Optional 6" (153mm) 7-day, circular temperature chart recorder uses pressure-sensitive chart paper (includes one box of 50 charts)
- Remote alarm contacts for remote monitoring

Thermo Scientific Revco Ultima II and Value™ Series SI –86°C Freezers 24.4 cu. ft. (691 L)



Revco 24.4 cu. ft. SI freezers offer 20% more storage capacity in the same freezer footprint.

- *Holds 480 2" (50 mm) boxes (48,000 vials) 360 3" (76 mm) boxes (36,000 vials)*
- *Based on standard Thermo Scientific Revco fiberboard boxes with 10 x 10 grid cell dividers.*

Super Insulation Increases Capacity

Exclusive thin-wall Super Insulation increases your storage capacity without occupying additional lab space. 24.4 cu. ft. (691 L). Our Revco SI freezers hold 20% more inventory than conventional 20.2 cu. ft. ultra-low freezers.

Maximum Storage Capacity

- Six optional racks per shelf and five shelf positions provide a total freezer volume of 30 inventory racks that hold up to 480 2" (50 mm) boxes or 360 3" (76 mm) boxes
- Closed-cell, high-density, foamed-in-place urethane insulation on the side and back walls combine with a vacuum insulation core to maintain R-value
- Composite wall design decreases wall thickness from 5" (127 mm) to 2⅝" (67 mm), maximizing interior space

Cabinet Features Interior

- Five inner doors constructed of high impact plastic create independent storage compartments
- Each inner door is mounted on a continuous hinge for optimal sample protection and increased service life
- Inner doors operate independently to protect entire sample contents from ambient thermal exposure
- Five shelves, three adjustable in 1" (25 mm) increments, permit alternate inventory configuration
- Stainless steel breakers and hot gas halo heat around perimeter of cabinet minimize frost build up
- Pressure Equalization Port™ (PEP) rapidly equalizes cabinet pressure by metering controlled amount of atmospheric air into storage chamber after door opening
- PEP combats vacuum created by pressure differential upon door closing, allowing re-entry to cabinet within 30 seconds of door opening

Exterior

- CryoLatch™ ultra-reliable, heavy-duty latch assembly with key access and padlock provision
- Heavy duty swivel casters and two front adjustable leveling feet for ease-of-installation
- 1" (25 mm) access port located on upper back wall of freezer

Heavy Duty Legaci Refrigeration System

- Legaci is the industry's first cascade refrigeration system integrating components and design processes specifically for ultra-low temperature applications
- DuPont refrigerants are formulated to achieve design operating temperatures by cooling the load as well as the system components
- Two 1HP Legaci system hermetically-sealed compressors are custom engineered, configured for ultra-low temperature freezers, and scientifically matched for motor size and displacement required for efficient operation

Ensure the easy retrieval of precious samples and minimize exposure to ambient conditions with our Thermo Scientific Revco rack solutions. Your sales representative can suggest the optimal rack configuration for your storage needs.

	Catalog No.
CO_2 Back-up System (built-in, factory installed)	6594
CO_2 Back-up System (free standing, customer installed)	6593
LN_2 Back-up System (built-in, factory installed)	6595
LN_2 Back-up System (free standing, customer installed)	6214
6" (152 mm) Circular Chart Temperature Recorder (built-in, factory installed, 50 charts included)	6183
6" (152 mm) Circular Chart Temperature Recorder (free standing, customer installed, 50 charts included)	6383
6" (152 mm) /7day Chart Paper (temperature range +50°C to -115°C, package of 50)	6185
Alarm Delay Module	6903
Deluxe Electronic Remote Alarm	6224
Digital Temperature Monitor1	6898
Surge Suppressor2 (free standing, customer installed)	6402

1 Ultima II Series only. 2 Value Series only.

Revco Ultima II SI Series
with IntrLogic Control,
Alarm and Monitoring

Revco Value SI Series
with Solid-State Control,
Alarm and Monitoring

Specifications **Temperature Range: -50°C to -86°C**

	Model No.	Cu.Ft. (L)	Controller	Voltage (Hz)	Amps/ Breaker (Plug)	Interior Dimensions* H x D x W inches (mm)	Exterior Dimensions* H x D x W inches (mm)	Ship Weight lb (kg)
Ultima II Series	ULT-2586-9SI-A	24.4 (691)	IntrLogic	115 V 60 Hz 1 Ø	16/20 (P2)	50.5 x 24.25 x 34.3 (1283 x 616 x 876)	77.5 x 33.6 x 41.9 (1972 x 944 x 1118)	790 (359)
	ULT-2586-9SI-D	24.4 (691)	IntrLogic	208 /230V 60 Hz 1 Ø	8.5/15 (P4)	50.5 x 24.25 x 34.3 (1283 x 616 x 876)	77.5 x 33.6 x 41.9 (1972 x 944 x 1118)	790 (359)
	ULT-2586-9SI-V	24.4 (691)	IntrLogic	230 V 50 Hz 1 Ø	8.5/15 (P7)	50.5 x 24.25 x 34.3 (1283 x 616 x 876)	77.5 x 33.6 x 41.9 (1972 x 944 x 1118)	790 (359)
	ULT-2586-9SI-W	24.4 (691)	IntrLogic	230 V 50 Hz 1 Ø	8.5/15 (P8)	50.5 x 24.0 x 34.5 (1283 x 616 x 876)	77.5 x 33.6 x 41.9 (1972 x 944 x 1118)	790 (359)
Value Series	ULT-2586-3SI-A	24.4 (691)	Solid-State	115 V 60 Hz 1 Ø	16/20 (P2)	50.5 x 24.0 x 34.5 (1283 x 616 x 876)	77.5 x 33.6 x 41.9 (1972 x 944 x 1118)	790 (359)
	ULT-2586-3SI-D	24.4 (691)	Solid-State	208 /230V 60 Hz 1 Ø	11.2/15 (P4)	50.5 x 24.0 x 34.5 (1283 x 616 x 876)	77.6 x 37.2 x 44.0 (1972 x 944 x 1118)	790 (359)
	ULT-2586-3SI-V	24.4 (691)	Solid-State	230 V 50 Hz 1 Ø	11.2/15 (P7)	50.5 x 24.0 x 34.5 (1283 x 616 x 876)	77.5 x 33.6 x 41.9 (1972 x 944 x 1118)	790 (359)
	ULT-2586-3SI-W	24.4 (691)	Solid-State	230 V 50 Hz 1 Ø	11.2/15 (P8)	50.5 x 24.0 x 34.5 (1283 x 616 x 876)	77.5 x 33.6 x 41.9 (1972 x 944 x 1118)	790 (359)

**All dimensions and specifications subject to change without notice. External dimensions include allowances for cabinet door, hinges, latches, handles and control panel protrusions.*

Inventory Systems and Accessories

Inventory Rack Stainless steel with handle. Adjustable, 2" (50 mm) or 3" (76 mm) box configuration; boxes and dividers ordered separately.	**Holds 20 boxes 2" (50 mm)**	**Holds 15 boxes 3" (76 mm)**
	9.4" H x 26.8" D x 5.3" W (239 mm x 681 mm x 135 mm)	
Full-Load Inventory System includes 30 racks with boxes and 100 cell dividers	Catalog No. 6893 30 racks, clips, 480 2" (50 mm) boxes Total vial capacity: 48,000	Catalog No. 6896 30 racks, clips, 360 3" (76 mm) boxes Total vial capacity: 36,000
Single Rack, Standard With clips (adjustable)	Catalog No. 6113-1	
Single Rack 4 drawers for (20) 2" boxes	Catalog No. 7284	

Fiberboard Boxes Package of (12) boxes (without dividers)	Catalog No. 5954		Catalog No. 5956	
Fiberboard Dividers	Catalog No. 5958 10 x 10	Catalog No. 6212 9 x 9	Catalog No. 5960 8 x 8	Catalog No. 5959 7 x 7
Package of (12) dividers	100 cells	81 cells	64 cells	49 cells

Contact your Thermo Scientific Sales Representative for information on alternative available inventory racks.

Line Cord Plug Reference

Models with this code	*have this plug*	*require this receptacle*	*NEMA Reference*	
			Plug	*Receptacle*
P2			*5-20P*	*5-20R*
P4			*6-15P*	*6-15R*
			International	
P7			*European*	
P8			*British*	

Thermo Scientific Revco Slimline Value Series SI –86°C Freezer 11 cu. ft. (311 L)

Revco ULT-1186-3SI slimline freezer.

- *Holds 180 2" (50 mm) boxes (18,000 vials)*
  135 3" (76 mm) boxes (13,500 vials)
- *Based on standard Thermo Scientific Revco fiberboard boxes with 10 x 10 grid cell dividers.*

Narrow footprint of 26.5" wide x 37.0" deep (673 mm x 940 mm) requires minimal lab floor space.

Super Insulation Increases Capacity

Exclusive thin-wall Super Insulation, combined with a slimline design, creates a very space-efficient, high-capacity freezer.

Maximum Storage Capacity

- Accomodates three optional racks per shelf and five shelf positions provide a total freezer volume of 15 inventory racks that hold up to 180 2" (50 mm) boxes or 135 3" (76 mm) boxes
- Closed-cell, high-density, foamed- in-place urethane insulation on the side and back walls combine with a vacuum insulation core to maintain R-value
- Composite wall design decreases wall thickness from 5" (127 mm) to 2⅝" (67 mm), maximizing interior space
- At only 37" deep x 26.5" wide (940 mm x 673 mm), the ULT-1186-3SI has a small footprint and requires minimal lab floor space

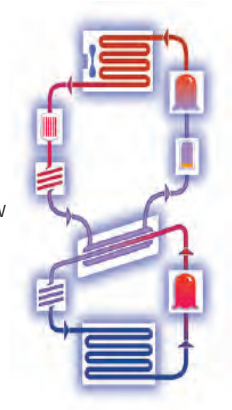
Cabinet Features Interior

- Five inner doors constructed of high-impact plastic create independent storage compartments
- Each inner door is mounted on a continuous hinge for optimal sample protection and increased service life
- Inner doors operate independently to protect entire sample contents from ambient thermal exposure
- Five shelves, three adjustable in 1" (25 mm) increments, permit alternate inventory configuration
- Stainless steel breakers and hot gas halo heat around perimeter of cabinet minimize frost build-up
- Pressure Equalization Port™ (PEP) rapidly equalizes cabinet pressure by metering controlled amount of atmospheric air into storage chamber after door opening
- PEP combats vacuum created by pressure differential upon door closing
- PEP allows re-entry to cabinet within 30 seconds of door opening

Exterior

- Chrome latch assures a positive door seal and accommodates a customer-supplied padlock for locking and sample security
- Heavy duty swivel casters and two front adjustable leveling feet for ease-of-installation
- 1" (25 mm) access port

Heavy Duty Legaci Refrigeration System



- Legaci is the industry's first cascade refrigeration system integrating components and design processes specifically for ultra-low temperature applications
- DuPont refrigerants are formulated to achieve design operating temperatures by cooling the load as well as the system components
- Two 1HP Legaci system hermetically sealed compressors are custom engineered, configured for ultra-low temperature freezers, and scientifically matched for motor size and displacement required for efficient operation
- Lubricating oils are formulated to function properly at ultra-low temperatures
- Condensers and aerodynamically-shaped fans are balanced to complement the cooling capacity of the refrigerants

Control, Alarms and Monitoring Systems

- Solid-state electronic controller with easy-to-read LED digital temperature display is door-mounted for quick viewing and temperature adjustment
- Key-operated on/off switch engages preset over-temperature alarm
- Automatic voltage boost compensates for low voltage and brown out conditions
- Adjustable temperature control
- Exterior alarm contacts provide connections to remote monitoring system (on back of freezer)

- Optional free-standing surge suppressor minimizes effect of voltage spikes from incoming electrical service

Specifications Temperature Range: -50°C to -86°C

Model No.	Cu.Ft. (L)	Controller	Voltage (Hz)	Amps/ Breaker (Plug)	Interior Dimensions* H x D x W inches (mm)	Exterior Dimensions* H x D x W inches (mm)	Ship Weight lb (kg)
ULT-1186-3SI-A	11 (311)	Solid-State	115 V 60 Hz 1 Ø	16/20 (P2)	50.5 x 20.0 x 18.5 (1283 x 508 x 470)	77.5 x 33.6 x 41.9 (1919 x 940 x 673)	605 (274)
ULT-1186-3SI-D	11 (311)	Solid-State	208/230 V 60 Hz 1 Ø	7.5/15 (P4)	50.5 x 20.0 x 18.5 (1283 x 508 x 470)	77.5 x 33.6 x 41.9 (1919 x 940 x 673)	605 (274)
ULT-1186-3SI-V	11 (311)	Solid-State	230 V 50 Hz 1 Ø	7.5/15 (P7)	50.5 x 20.0 x 18.5 (1283 x 508 x 470)	77.5 x 33.6 x 41.9 (1919 x 940 x 673)	605 (274)

**All dimensions and specifications subject to change without notice. External dimensions include allowances for cabinet door, hinges, latches, handles and control panel protrusions.*

Inventory Systems and Accessories

Inventory Rack Stainless steel with handle. Adjustable, 2" (50 mm) or 3" (76 mm) box configuration; boxes and dividers ordered separately.	Holds 12 boxes 2" (50 mm)		Holds 15 boxes 3" (76 mm)	
	9.4" H x 16.8" D x 5.4" W (239 mm x 425 mm x 137 mm)			
Full-Load Inventory System includes 15 racks with boxes and 100 cell dividers	Catalog No. 7198 15 racks, clips, 180 2" (50 mm) boxes Total vial capacity: 18,000		Catalog No. 7199 15 racks, clips, 135 3" (76 mm) boxes Total vial capacity: 13,500	
Single Rack, Standard With clips (adjustable)	Catalog No. 6112-1			
Fiberboard Boxes Package of (12) boxes (without dividers)	Catalog No. 5954		Catalog No. 5956	
Fiberboard Dividers	Catalog No. 5958 10 x 10	Catalog No. 6212 9 x 9	Catalog No. 5960 8 x 8	Catalog No. 5959 7 x 7
Package of (12) dividers	100 cells	81 cells	64 cells	49 cells

Options and Accessories

	Catalog No.
CO_2 Back-up System (free standing, customer installed)	7218
LN_2 Back-up System (free standing, customer installed)	7219
6" (152 mm) Circular Chart Temperature Recorder (built-in, factory installed, 50 charts included)	6183
6" (152 mm) Circular Chart Temperature Recorder (free standing, customer installed, 50 charts included)	6383
6" (152 mm) /7day Chart Paper (temperature range +50°C to -115°C, package of 50)	6185
Alarm Delay Module	6903
Deluxe Electronic Remote Alarm	6224
Digital Temperature Monitor	6898
Surge Suppressor (free standing, customer installed)	6402

Optional inventory racks (# 6112-1) (boxes sold separately)

Optional deluxe remote alarm (# 6224)

Optional free-standing temperature recorder (# 6383)

Line Cord Plug Reference

Models with this code	*have this plug*	*require this receptacle*	*NEMA Reference*	
			Plug	*Receptacle*
P2			*5-20P*	*5-20R*
P4			*6-15P*	*6-15R*
			International	
P7			*European*	

Thermo Scientific Accessories

Productive use of your Super Insulation freezer can be enhanced with accessories specially designed to improve utility and convenience.

- Many accessories are factory installed and must be specified with your original order
- Field installed accessories may require the services of a factory authorized technician
- Some accessories or options may affect freezer performance: For more information contact your Thermo Sales Representative

Temperature Recorders

Optional 6" (152 mm) chart, 7-day temperature recorders use pressure-sensitive chart paper; one box of 50 charts included. Built-in recorders must be specified when ordering.

Catalog No. 6383

Deluxe Electronic Remote Alarm

The deluxe electronic remote alarm can be programmed to sound an alarm in the event of a temperature increase or power failure.

- The alarm can dial up to four telephone numbers
- Advises of an alarm condition across any telephone system which accepts pulse dialing
- One system can monitor up to four individual freezers or up to three groups of freezers

Requires dedicated phone line

Catalog No. 6224

Alarm Delay Module

The alarm delay eliminates nuisance alarms due to intermittent or transitory conditions such as lightning or brief power outages. The adjustable delay requires an alarm condition to exist continuously for a pre-determined time (adjustable) before a signal is released to a central alarm/monitoring system or telephone dialer.

- Adjustable delay from 0.5 to 32 minutes
- Red alarm indicator light remains flashing after transient condition is corrected; requires manual reset
- Signals chronic alarm conditions which may indicate impending component failure; allows time for inspection or corrective maintenance
- Inserts variable time interval between detection of alarm condition and transmission of signal
- Includes accurate digital timing circuit adjustable from 0.5, 1, 2, 4, 8, 18 or 32 minutes
- Operates independent of line power; built-in battery and alarm test function uses 9V battery, customer supplied

Catalog No. 6903

Digital Temperature Monitor

Simple, accurate and cost-effective, our Revco digital temperature and power monitor provides both alarm/monitoring and digital temperature display in a single, self-contained unit. Standard features include high alarm, alarm mute and chirp, audio delay timer, remote alarm contacts (SPDT), NiCad battery backup, and low voltage AC power supply, 120V, AC.

- The monitor can be installed on or adjacent to any refrigerator or freezer
- Activates an audible and visual warning in case of power failure or overtemperature condition
- Choose from single probe digital models, or multiple probe microprocessor-based models
- Temperature range is -100°C to +25°C
- Probe size 1.25"L x 0.25" diameter (32 mm x 6 mm)

Catalog No. 6898

Surge Suppressor

Surge suppressors provide additional protection against voltage transients which may damage refrigeration or control components. Independent module requires field installation by a qualified electrician or factory authorized service center. Model number and voltage must be specified when ordering.

Catalog No. 6402

All dimensions are approximate.
Specifications subject to change without notice.

All models are designed to meet UL, CUL and CE criteria for safety and performance

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